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ABSTRACT

The five major chapters of this preliminary investigation contain: (1) a description of the contextual setting of the study and a discussion of its objectives and hypotheses, (2) review and analysis of related studies, (3) procedures and design of the investigation and operational definition of elements, (4) enumeration of results, and, (5) the conclusion and recommendations of the study. Test tables are widely used and a bibliography is included. (RL)

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THE EFFECTS OF AN ENRICHMENT-ORIENTED RADIO PROGRAM ON MEASURES OF LISTENING COMPREHENSION AND STUDENT ATTITUDE MADE IN LEVEL II HIGH SCHOOL SPANISH COURSES

DISSERTATION

Presented in Partial Fulfillment of the Requirements
for the Degree Doctor of Philosophy in the
Graduate School of The Ohio
State University

By

Alan Garfinkel B.A., M.A.

The Ohio State University

1969

Approved by

_____

Adviser,
College of Education

FL 001 634

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The treatment, a series of radio programs entitled El eco español was produced with the aid of a great many people. The original idea for the series was that of Mr. W. B. Steis and Mrs. Maragaret Tyler of the staff of Station WOSU. Mr. Thomas Warnock, WOSU Program Director, and the staff of the University Recording Studio helped with the production. Of course, the series would never have been completed without the aid of co-producer, Leslee D. Litt, and announcer, Professor Mario Iglesias of the Ohio State University Romance Language Department. The Puerto Rican and Mexican radio stations that contributed taped materials to the program will be the writer's permanent creditors.

Those helping in the execution of the study included The Ohio State University Computer Center, The Ohio State University Test

Development Center, The Oklahoma State University Research Foundation, as well as the students, teachers, supervisors, and administratiors of the King City school system.

Special gratitude is due to the writer's wife, Sonya, who was always ready to provide a helping hand at the most critical moments.

Literally dozens of others are still unmentioned. Their contributions are no less appreciated. The writer is deeply grateful to all who helped complete the present study.

VITA

September 6, 1941	Born - Chicago, Illinois
1963	B.A., University of Illinois
1963-64	Teaching Assistant, Department of Spanish, Italian and Portuguese University of Illinois
1964.	M.A., University of Illinois
1964-6.	Teacher, Waukegan Township High School, Waukegan, Illinois
1966-9.	Teaching Associate, Romance Language Department, The Ohio State University
1969.	Assistant Professor Department of Education The Oklahoma State University

PUBLICATIONS

El eco espanol, An Enrichment-Oriented Radio Program for Level II High School Spanish Classes.

FIELDS OF STUDY

Major Field: Education

Studies in Foreign Language Education. . .	Professor Frank Otto
Studies in Audiovisual Communications. . .	Professor Edgar Dale
Studies in Curriculum.	Professor Jack D. Frymier

TABLE OF CONTENTS

ACKNOWLEDGMENTS ii

VITA. iv

LIST OF TABLES. vii

LIST OF FIGURES ix

Chapter Page

I. INTRODUCTION 1

Organization . . . . .
Study and Usefulness of Radio. . . . . .
Rationale. . . . . .
Problems . . . . . .
Hypotheses . . . . . .

II. REVIEW AND ANALYSIS OF RELATED LITERATURE. 11

Classifications. . . . . .
Comparative Studies. . . . . .
Non-Comparative Studies. . . . . .
Non-Evaluative Reports . . . . . .

III. DESIGN AND PROCEDURE 22

Design . . . . . .
Procedure. . . . . .

IV. RESULTS. 35

Presentation . . . . . .
Pre-test . . . . . .
Post-test. . . . . .
Pre-test to post-test change analysis. . . . . .
Reliability and Validity . . . . . .
Non-Quantitative Information . . . . . .

V. CONCLUSIONS AND RECOMMENDATIONS. 69

Conclusions. . . . . .
Recommendations. . . . . .

TABLE OF CONTENTS CONT'D.

Chapter	Page
APPENDICES.	70
BIBLIOGRAPHY.	78

LIST OF TABLES

Page

1. Pre-test Means and Standard Deviations. 36
2. Pimsleur I-Pre-test ANOV with Spanish Grade as Co-Variate 37
3. Pimsleur II-Pre-test ANOV with Spanish Grade As Co-Variate 38
4. Pimsleur Total Pre-test ANOV with Spanish Grade As Co-Variate 39
5. Attitude Total Pre-test ANOV with Spanish Grade As Co-Variate 40
6. Pre-Test ANOV: Spanish I Grade. 41
7. Pre-Test ANOV: Pimsleur I 41
8. Pre-Test ANOV: Pimsleur II. 42
9. Pre-Test ANOV: Pimsleur Total 43
10. Pre-Test ANOV: Attitude Scale. 43
11. Post-test Means and Standard Deviations 45
12. Post-test ANOV: Pimsleur I. 46
13. Post-test ANOV: Pimsleur II 47
14. Post-test ANOV: Pimsleur Total. 47
15. Post-test ANOV: Attitude Scale. 48
16. Pre-test and Post-test Means - Pimsleur I 50
17. Pre-Post ANOV - Pimsleur I. 50
18. Pre-test and Post-test Means - Pimsleur II. 51
19. Pre-Post ANOV - Pimsleur II 52

LIST OF TABLES CONT'D.

Page

20. Pre-test and Post-test Means - Pimsleur Total. 53

21. Pre-Post ANOV - Pimsleur Total 53

22. Pre-test and Post-test Means - Attitude Total. 54

23. Pre-Post ANOV - Attitude Total 55

LIST OF FIGURES

		Page
Figure 1.	Design of the Experiment.	25
Figure 2.	Revised Design of the Experiments	27
Figure 3.	Time Schedule	32

I. INTRODUCTION

A. Organization

The following chapters are intended to form a complete report on a preliminary investigation into the use of radio to enrich the teaching of the listening skill in the foreign language classroom. By way of introduction, this chapter will describe the contextual setting of the study and go on to discuss its objectives and hypotheses. The second chapter will provide a review and analysis of some related studies. The third chapter will outline the procedures and design of the investigation and operationally define its elements, while the fourth chapter will enumerate its results. Finally, the fifth chapter will state the conclusions of the study, present recommendations based on its outcome, and pose questions for further study.

B. Regarding the study and usefulness of radio

There are numerous publications that tell us about investigations into the employment of various audiovisual materials in teaching foreign language. A recent example is the reports of the working committees of the 1969 Northeast Conference on the Teaching of Foreign Languages[1] wherein nearly all types of audiovisual materials

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[1]Mills F. Edgerton, ed., Sight and Sound: The Sensible and Sensitive Use of Audio-Visual Aids (New York:Northeast Conference on the Teaching of Foreign Languages, 1969).

are discussed in terms of how to best use them. Both these reports and pedagogical literature in general give considerable attention to television, film and sound recordings. Chu and Schramm,[2] for example, have listed fifty-eight more or less commonly accepted statements about learning from television programs and other materials, along with brief abstracts of research studies which provide information that may help us accept or reject the statements. Reid and MacLennan[3] have presented concise abstracts of nearly 350 research studies dealing with instructional films and television programs. Nostrand's bibliography[4] gives abstracts of many language teaching studies, including well over twenty that are concerned with sound recordings. The one type of audiovisual material, however, which remains conspicuous by its nearly complete lack of mention in the literature is radio. Instructional radio has been used only minimally in teaching language in this country since the 1920's, and today it is exploited largely outside of the United States. Which advantages have we been missing by virtue of this oversight?

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[2]Gordon C. Chu and Wilbur Schramm, Learning From Television: What the Research Says (Washington, D.C.:National Association of Educational Broadcasters, 1968).

[3]J. Christopher Reid and Donald W. MacLennan, Research in Instructional Television and Film (Washington, D.C.:U.S. Office of Education, 1967).

[4]Howard Lee Nostrand, David William Foster, and Clay Benjamin Christensen, Research on Language Teaching, An Annotated International Bibliography, 1945-64 (Seattle: University of Washington Press, 1965).

At least one well known expert in audio-visual teaching methods has listed several advantages of using radio rather than printed media for classroom teaching[5]. These include the observations that the student perceives a radio program as being more directly addressed to him personally, and that radio has an ability to create an apparent shrinkage of time and space. Such advantages have not been measured, probably because we lack an instrument that is capable of measuring them. However, there is one readily measurable advantage of using radio which has been, to some extent, objectively measured. It is the effectiveness of radio in accomplishing the type of behavioral change that is the essence of learning. Lowdermilk[6] presented materials about the constitutional rights of free speech and free assembly to high school classes, using printed folders for control groups and a radio program for experimental groups. His instrument measured the students' attitudes toward the value of these constitutionally guaranteed rights, and he concluded, on the basis of his results, that radio was more effective than printed media in producing attitude shifts from pre-test to post-test.

Other investigators have reported success in changing other behaviors with radio programs, and those which are related to the present investigation are reviewed and analyzed in the next chapter of

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[5]Edgar Dale, Audio-Visual Methods in Teaching (New York:Holt, Rinehart and Winston, 1954), p.280.

[6]Ronald R. Lowdermilk, Attitude Shifts From Reading and Radio Program Listening (Unpublished Ph.D. dissertation, Ohio State University, 1939).

this report. The reader's attention is called to Lowdermilk's work because it is a source of the rationale for the present study.

C. Rationale

Since Lowdermilk[7] reported a successful usage of radio in social studies classes, language teachers ask if similar success will also result from using a radio supplement in their classrooms. It is only necessary to briefly scan the literature of foreign language pedagogy to find many an appeal for more attention to the specific sub-skills of learning a new language (listening, speaking, reading and writing). One naturally asks whether radio might be a useful supplement to teaching one of these sub-skills, and, if so, which would be more influenced by radio.

Language learning is often thought of as being a combination of four separate skills: listening, speaking, reading and writing.[8] Because the physical characteristics of radio as a teaching medium are most easily associated with listening, the present investigation is concerned with that skill. The section of this report that is concerned with providing operational definitions will discuss listening in greater detail. For now, suffice it to say that scholars have identified[9] two sub-skills involved in listening: sound discrimination and comprehension.

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[7] Ibid.

[8] Nelson Brooks, Language and Language Learning: Theory and Practice, 2nd ed. (New York: Harcourt, Brace and World, Inc. 1964). p. 110.

[9] William Francis Mackey, Language Teaching Analysis (London: Longmans, Green & Co., Ltd., 1965), p. 261.

Despite the fact that listening is a complex skill, such scholars as Newmark and Diller indicate that language teachers generally treat it "as incidental to speaking rather than as a foundation for it."[10] That is, teachers do not make a specific effort to teach listening as a separate skill, but too often expect listening to be a by-product of speaking exercises. Newmark and Diller point out that there is no empirical evidence to prove that such an expectation is likely to increase student error and apprehensiveness. They make an appeal for such research and recommend classroom activities to enhance the listening skill. Some of the activities recommended include dramatic presentations of dialog material, guided conversations paralleling the dialog situations, and listening comprehension quizzes.

The rationale of the experiment reported here combines the implications of Lowdermilk's[11] study with the above recommendations. If radio's capabilities for behavior change, allied with effective teaching techniques, could be a valuable way of developing listening skills in the foreign language classroom, the possibility merits investigation. The purpose of the present experiment is to arrive at some preliminary answers to the questions about radio's value in the teaching of listening skills.

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[10]Gerald Newmark and Edward Diller, "Emphasizing the Audio in the Audio-Lingual Approach," Modern Language Journal, XLVIII (January, 1964), 18.

[11]Lowdermilk, Attitude-Shifts.

D. Problems

Two obstacles impeded progress toward the goal of finding out whether or not an effective aid to listening comprehension could be broadcast to foreign language classrooms. The first was the lack of a suitable radio program. The second was to find out what language teaching experts had already determined about the effectiveness of radio programs in language teaching.

The kind of enrichment-oriented radio program to be used as a treatment is of the utmost importance.[12] The first problem was to specify the characteristics of such a program. When he first decided to do a comparative study to find out more about the use of radio in the foreign language class, this writer had in mind a set of criteria for the kind of program to be used. It was his feeling that existing research had not used a radio program fulfilling these criteria.

The first criterion was the length of the program series. Although there is no empirically based reason, this writer believes that an educational experiment should have, wherever possible, a treatment that lasts most of an entire school year. This would require a series of about 30 weekly programs.

Another criterion concerned that precious commodity, class time. In view of the requirements for preparation and follow-up that any

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[12]Loran C. Twyford, Jr. "Educational Communications Media" in Encyclopedia of Educational Research, ed. by Robert L. Ebel (4th ed.; [New York]: The Macmillan Company, 1969), p. 371. According to Twyford, "On the basis of available research the effectiveness of a particular instructional material is more dependent upon the nature and quality of the message than upon the characteristics of the channel of communication." It would be well to keep this in mind regardless of the outcome of the present study.

program necessitates, fifteen minutes weekly should be the maximum amount of time taken from the class schedule.

The investigator insisted on a program that would make every possible effort to use radio and dramatic production techniques to the fullest possible advantage. A radio program could conceivably be composed of nothing more than one man reading from a printed text. A great deal more was required here. The sound recording studio of today makes it possible to use sounds, conversations, music, etc. from all over the world. This writer wanted a program that would take full advantage of the capabilities offered by modern radio production techniques which have been made available in the past two decades.

A final criterion was that the program be of interest to the students. It would be necessary to have material directly addressed to the young listeners--material that would be believable and often humorous. Where would we find such a program?

The search began. A great many potential sources were contacted. The search was in vain. There was one series that might have met all requirements, but it was not to be released until 1970. The writer presented the problem to two members of the staff of WOSU, The Ohio State University educational radio station--Mrs. Margaret Tyler who is in charge of The Ohio School of the Air and Mr. William Steis, station manager. They suggested that a program be produced locally, and El eco espanol[13] was born.

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[13]Alan Garfinkel and Leslee D. Litt, El eco espanol: An Enrichment Oriented Radio Program for Level Two High School Spanish Classes (Columbus: WOSU Radio, 1968).

The writer had the help of a fellow student in producing the program. She was Leslee D. Litt, a Master's degree candidate in Foreign Language Education. Together we produced a series of thirty-two fifteen minute radio programs that we hoped would fulfill our original criteria. The following were some regular features of the program.

We often included an interview in Spanish with a student from one of the local high schools. These were included to provide a way for students to identify with the programs. Chapter Four gives the results of the non-quantitative surveys, and these tell us something of our success or lack of it in this area.

Every program included some Spanish or Latin-American folk or popular music. We also tried to use dialogs, jokes, tongue twisters, and other material that was as interesting as possible. We may never know how successfully we amused the students, but we often amused ourselves. The script of one of the shows appears in Appendix A.

The producers were far from the only people who contributed to El eco espanol. As the acknowledgments indicate, a great many others gave aid without which there would have been neither a program nor a subsequent investigation.

The second problem took much longer to resolve. Though two semi-computerized searches were made with the facilities of the Educational Resource Information Center (ERIC), along with full usage of ordinary bibliographic techniques, no reaearch project using a similar treatment with similar variables observed in a similar context was found. A number of interesting projects which are, to some degree, related to the present study were found and these will be described. However, there was no directly antecedent research that provided a point of

departure for the present study. Thus the problem caused by a lack of directly antecedent research could only be solved by classifying the present study as a preliminary investigation whose purpose was to pose a central question in the form of a hypothesis, to provide a tentative answer, and to pose additional questions.

E. Objectives

The primary objective of the present study was to discover the effect of a radio program on measures of listening comprehension and student attitude in Spanish classes.

Quantitative information was sought in two areas: (1) changes in listening ability over the course of a school year and (2) the development of students' attitudes toward their Spanish classes during that same period of time.

Non-quantitative information regarding student opinions about the radio program itself was also elicited. It will be presented in the form of quotations from remarks solicited from students listening to the program. This information is included less for its generalizability than for the human interest it lends the study.

The hypothesis associated with the first objective of the study states that there are no significant differences between scores received on a listening comprehension test by similar classes not listening to an enrichment-oriented radio program, listening to such a program via tape recording, and listening to such a program via radio at the time of broadcast.

The hypothesis associated with the second objective states that there are no significant differences between scores received on a

student attitude scale by similar classes not listening to an enrichment-oriented radio program, listening to such a program via tape recording, and listening to such a program via radio at the time of broadcast.

Detailed operational definitions of the various elements of the study appear in the chapter which deals with design and procedure.

The present hypotheses are those of a preliminary investigation. Thus, one could not expect them to be based on a long history of antecedent studies. There are, however, some earlier reports that ought to be considered.

CHAPTER II

Review and Analysis of Related Literature

A. Classification of Studies

Many writers have provided us with reports of reactions, experiences, and options regarding the use of radio in foreign language study. However, one searches in vain for an empirically controlled investigation using radio in high school language teaching that stresses all four language skills. As one must expect in the case of a preliminary investigation such as the present one, available studies are either relevant to levels other than high school, have uncontrolled designs, or employ curricula that do not stress all four language skills. There are, nevertheless, many studies worthy of mention, and these will be presented in accordance with a system of classification intended to make them more useful.

Three groupings are used here to classify the studies presented in this review and analysis. The first of these includes studies of a comparative nature wherein an attempt has been made to compare the usage of radio in language teaching against some other type of treatment in an empirically controlled situation. The second includes studies where radio has been used for teaching language and has been evaluated by one means or another, but not compared to any other treatment. Studies that were concerned only with audience response rather than classroom effect were not considered. The last grouping includes reports on the use

of radio which make no mention of either comparative or non-comparative evaluation. They are simply intended to document the fact of usage.

B. Comparative Studies

The earliest attempt to discover the effects of teaching foreign language with a radio supplement is, in many respects, one of the best. It was made by Professor F. H. Lumley.[14] In 1934, Professor Lumley investigated the effects on measures of student pronunciation of a radio program carried by The Ohio State University radio station. No mention of the validity or reliability of the instrument was made. Lumley worked with the cooperation of four high school teachers. Their students were to listen to morning broadcasts in class and to evening broadcasts at home. In two cases the teachers had two groups that performed equally well on the pre-test of pronunciation. One class of each of these teachers was designated as a control, while the other was designated as an experimental group. One of the remaining teachers taught an experimental group, but had no control group. The fourth teacher had two groups of students whose pre-test performance differed in favor of the control group. The hypothesis said that there would be a significant difference in pronunciation scores between control and experimental groups. The instrument was merely a reading of printed sentences, so only one aspect of the speaking skill, pronunciation, was measured. Lumley pointed out that he made

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[14] F. H. Lumley "Does Radio Broadcasting Help Pupils Pronounce Foreign Languages?", Modern Language Journal, XVIII, (March, 1934), pp. 383-6.

no attempt to measure ability to understand French or to make meaningful replies to questions. Only one-and-one half pairs of classes were treated in accordance with the design of the experiment. All the others missed enough programs to invalidate their participation. The class that had no control group to match it heard all the programs in class and at home. One pair of classes that performed equally well on the pre-test did hear at least thirty-eight radio lessons. While the outcome for the entire experiment favored the experimental groups, attrition makes it difficult to say that the study is a definitive endorsement for broadcast supplements to language classes. These results do, however, encourage further investigation which might, in turn, lead to studies that could yield such an endorsement.

In 1955, NHK, the Japanese educational radio network, investigated the effects of a radio supplement to classroom instruction in English. During the last fifteen minutes of three of their four weekly English classes, seventh grade experimental group students were exposed to an English radio program entitled Radio English Classroom.[15] A control group, randomly selected from the same population of 534 seventh graders that yielded the experimental group, did not listen to the program. Un-standardized multiple choice tests were used to discover a significant difference ($p = .05$) between groups that favored the experimental group. Tests were repeated after the next two semesters. The second semester's test did not discover any significant difference. The third semester's test revealed the same

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[15]NHK Cultural Research Institute, "The Effects of Radio English Classroom" in Survey of Educational Media Research in the Far East (Washington, D.C.: U.S. Office of Education, 1963), p. 102-3.

difference as did the first semester's. Since the NHK report was written in Japanese, those who cannot read it must depend on several abstracts of the study that are available. There are critical details that these abstracts do not reveal. They do not tell us specifically what was tested, nor do they indicate whether the teaching was oriented toward all four language skills: listening, speaking, reading, and writing.

Another comparative study on the use of radio for teaching foreign language was done at Indiana University in 1964 and is mentioned here more for its uniqueness than its relevancy.[16] The experimental and control groups had drill work both in class and in the language laboratory. The experimental group received additional practice which was broadcast over high-frequency AM radio and received over transistor radios specially adapted to receive the high frequency programming. Controls for the experiment were rigid. The use of the special frequency guaranteed that no members of the control group could use the programs. The agreement under which the adapted receivers were given to the members of the experimental group barred them from letting unauthorized people use the receivers. According to the investigator's report, the rate of subject loss over the year was high, but he was able to conclude that learning of drills was significantly ($p = >.01$) improved in the experimental groups.

The last of the comparative studies to be reviewed here is concerned with the performance of two randomly selected groups of

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[16] H.Robert Cook, The Effects on Learning of Structure Drills in Spanish Broadcast via High Frequency AM Radio (Bloomington: Indiana University, 1964).

FLES (foreign language in the elementary school) students.[17] One group received fifteen minutes of daily instruction in Spanish via radio. The other received similar instruction via television. The same teacher taught the radio and television sections, and another teacher conducted the classroom follow-up for both groups. The experiment lasted five weeks (one summer session), and achievement tests were administered at its conclusion. No information on the type of instrument used is available at this writing. The results showed no significant difference between scores of the radio and television groups. The experimenter concluded that radio is neither superiornor inferior to television as a medium of instruction to achieve aural recognition of Spanish.

C. Non-comparative Studies

Two of the available non-comparative studies have been selected for presentation here because they are representative of their type and because they both make some contribution to our knowledge of the usage of radio in language teaching. One study employed a measuring instrument for purposes of evaluation, but the other depended upon expert opinion alone for its source of evaluation.

The first study[18] involved fourth grade students in Columbus, Ohio who received ten fifteen minute radio programs in French, German,

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[17] Gene D. Shepherd, A Comparison of the Achievement of Aural Recognition in Spanish by Third Year Primary Pupils When Either Radio or Television Is Used As the Instructional Medium (unpublished Ph.D. dissertation, University of Oklahoma, 1964).

[18] Leona Glenn, "Teaching Foreign Language by Radio", Educational Research Bulletin, XL, (May, 1961), pp. 114-15.

or Spanish at the rate of one per week. At the end of the series, a single observation was made using a quiz administered by radio as the instrument. No further information on the reliability or validity of the instrument was supplied. The average results for all of the students of all three languages showed that they got over 70% of the test items correct. The conclusion was simply that it is possible to teach foreign languages by radio.

The design of the above investigation is in exact accordance with that recommended by Campbell and Stanley[19] for what they call a pilot study. The value of such a study one is much like that of the "feasibility studies" that are often undertaken before the construction of large public projects. The knowledge it provides - foreign languages can be taught by radio - is the closest available thing to a point of departure for the present investigation. This, however, is aimed more specifically at listening and is designed more elaborately in the hope of securing greater generalizability.

The second non-comparative study[20] was concerned with radio program designed to supplement classroom instruction in French for the inhabitants of French Polynesia. This study had only two means of evvaluation. One was the supervision of the Inspector of Schools in the island group district. The other resulted from the opinions

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[19]Donald T. Campbell and Julian C. Stanley, "Experimental and Quasi-Experimental Designs for Research" in Handbook of Research on Teaching, ed. by N. L. Gage, (Chicago: Rand McNally and Co., 1963), pp. 6-7.

[20]Bernard Medard, "Teaching French by Radio", South Pacific Bulletin, April, 1962, pp. 28-30.

of teachers that were solicited by the producers. Such methods of evaluation are, of course, barely interpretable, let alone generalizable. What then is the value of the report? It makes recommendations that should be valuable to anyone interested in producing a radio program for language teaching. One of these was to concentrate on language likely to occur in both cultures. A program on French literature might be acceptable in New York, but it will not be acceptable in French Polynesia where things of a more pastoral nature must be used. Thus a sample lesson regarding animals and plants known in both France and Polynesia was provided. Cultural accuracy and authenticity are vital, to be sure. However, one must be sure that he is progressing from known to unknown (rather than vice-versa) if he intends to present the unfamiliar successfully. The report also included recommendations on pacing speech and pauses properly. This may not be a valid study in terms of design, but it does provide helpful information.

Often a review of comparative and non-comparative literature will give the reader a reasonably representative view of the state-of-the-art in a given field. Such is not the case with regard to the use of radio in teaching foreign language. There are many creative usages of radio in teaching foreign language which are not represented by such literature. Such productions for teaching language, however, are not done by a central agency in the United States. A great many local educational broadcasters have produced programs for use in their respective areas, but for the most part, these programs are not syndicated, and it becomes nearly impossible to know the nature

of more than just a few of those which are produced in this country.

Professor D. Lincoln Canfield produced two series for Spanish FLES courses in the studios of the Empire State FM School of the Air at the University of Syracuse. The series are entitled Spanish Today (grades 3, 4, and 5)[21] and Spanish For Today (grades 5 and 6).[22] The programs are intended to stimulate an interest in further study of Spanish. There are about sixteen 15 minute programs in each, including manuals which aid the teacher in preparation. Programs include dialogs, practice, and, most importantly, a good exposure to elements of both formal and deep culture.

Another American source of radio programs for language teaching is the Voice of America. In accordance with federal law, VOA programs are not available in the United States, but several editions are used on an irregularly scheduled basis to teach English to speakers of various languages.

Foreign productions are easier to locate because they are generally produced by a central agency. One of the more active users of radio for foreign language teaching is the Australian Broadcasting Commission. The ABC has produced programs for use in teaching French to Australian students (via AM) and English to Thais and Indonesians (via shortwave).

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[21][D. Lincoln Canfield], Spanish Today: Radio Spanish Lessons for the Intermediate Grades (Syracuse: Empire State FM School of the Air, 1962).

[22][D. Lincoln Canfield], Spanish For Today: Radio Spanish Lessons for the Upper Elementary Grades (Syracuse: Empire State School of the Air, 1963).

The ABC French program, "French for Schools,"[23] was produced by Professors Giroux and Ropert of the University of Melbourne. Programs include dialogs, repetition exercises, and a number of songs. An illustrated text is supplied. Another French program done by the ABC is entitled Early Stages in French, which appears to be intended more for the kind of passive listening that Billows[24] describes than for direct teaching. Also, the ABC provides a preparation session for each of its French television programs which is broadcast via radio. This is a particularly interesting application of radio. Preparation and follow-up are known to be essential to the successful use of television. What more economical and efficient way to provide them so uniformly well could be found? Such a combination takes advantage of the strengths of each medium without needless emphasis on their respective weaknesses.

The ABC also broadcasts English lessons via shortwave to Asian countries. One such program, English for Thailand,[25] is made up of

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[23] Micheline Giroux and Marcel Ropert, French for Schools (Sydney: Australian Broadcasting Commission, 1965).

[24] F. L. Billows, The Techniques of Language Teaching (London: Longman's, 1961), p. 37. Billows says "A new word or expression needs to sink into the mind like a seed in the earth... until it emerges as an independent ... unit of speech. ...I see to it that my pupils hear enough repetition of the... forms they are learning... for this piling up of impressions to be possible."

[25] Colin Free and The Staff of the Commonwealth Office of Education, English for Thailand Book 3 (Sydney: Australian Broadcasting Commission).

dialogs, songs, and exercises for reading and writing. The methodology is different from that recommended by such writers as Brooks and Lado. However, the listening audience is also different from a high school language class, and this must be kept in mind.

Sveriges Radio (Sweden) is another network that is active in language teaching, presenting both Swedish and English. The English lessons are needed domestically because English is a required second language in Swedish schools. The Swedish lessons are broadcast to other countries. The Swedish network has two series of English programs called "Let's Start I" and "Let's Start II."[26] The first is for the pre-reading stage, while the second introduces reading and writing. Judging by the delightful supplementary materials that accompany the program, the types of methodology used in these programs are some of the finest in use via radio anywhere. They are as up-to-date as the visual cue books provided with the most advanced American texts.

England's British Broadcasing Corporation is also extremely active in presenting radio lessons in all the commonly taught languages. The BBC has many programs much like those of the ABC. They also feature programs that are broadcast via radiovision,[27] which is the most important feature of the language teaching done by the BBC. Radiovision is a novel combination of three media: radio,

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[26]Rolf Lundgren, English Radio Courses as a Pre-Requisite for Making English a Compulsory Subject in the Swedish School System. Stockholm, 1967 (mimeographed).

[27]School Broadcasting Council for the United Kingdom, Radiovision London, 1967 (mimeographed).

filmstrips, and non-projected visuals. It makes it possible to use an inexpensive visual adjunct in combination with radio programs without using expensive equipment required by television, such as cameras and film chains. At this writing, there is only one radiovision program, "French for Beginners",[28] in use for language teaching; however programs for other languages are in preparation. It was originally the intention of the experiment at hand to evaluate the radiovision materials. This was not possible both because the Spanish materials had not been released and because of importation problems. Thus the experiment was re-designed to evaluate a more conventional type of program.

The writer believes that the most important contribution of these non-comparative studies to his work is an incentive to attempt to find out more about the use of radio in teaching foreign languages.

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[28] School Broadcasting Council for the United Kingdom, French for Beginners London, 1965 (mimeographed).

CHAPTER III

Design and Procedure

A. Design

The design of the present study divided the sample (N = 260) of 12 classes being observed into three groups or cells. These were the control group, the tape-reception, or experimental-A, group and the live-reception, or experimental-B group. All three groups practiced the listening skills. The difference between them was in the way they practiced it. The two experimental groups listened to an enrichment-oriented radio program while the control group did not. The term enrichment-oriented radio program is defined as that type of program whose orientation or basic purpose is to supplement or enrich a presentation that has been made by some other means.

The control group did not listen to El eco español, the enrichment-oriented radio program described in the introductory section of this report. They received whatever other practice in listening their teachers were able to provide.

The experimental-A or tape-reception group listened to the radio programs. Their class schedule did not permit them to listen to them at broadcast time, so they listened to tape recordings of the programs played on machines in their classrooms. Their teachers auditioned these before using them in class.

The experimental-B or live reception group also listened to the radio programs. Their classes were in session at broadcast time, and they listened to the radio at that time. The program was received on the schools' centrally located FM receivers and transmitted to the classrooms via their public address systems. The teachers of the experimental-B class were not able to audition the programs before using them in class.

All teachers participating in the present study had a copy of the script of each program. They were also given a copy of the mimeographed guide that was written for use with the program. Figure 1 shows the design of the study just before pre-tests began.

The setting of the present study was King City. This pseudonym has been given the city for the sake of anonymity.

> In many respects, King City afforded an ideal setting for this investigation. Its educational practices and the background of its students are sufficiently similar to those of other American cities that the results of these studies have validity for a large segment of the country. King City is often described as the typical American City. It is located in the Middle West, both geographically and temperamentally .... King City has a stable and homogeneous population consisting for the most part of White Protestants .... In short the foreign language situation ... is not affected by the presence of any strong non-native influences, such as exist [elsewhere] .... King City differs little from the national averages in modern ... foreign language enrollment. It is noteworthy that of all those who begin a foreign language only 50% continue past the first year! ... This is not exclusively a local problem, for these figures match almost exactly similar statistics for the state and for the nation as a whole ...[29]

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[29]Paul Pimsleur, Donald M. Sundland, Ruth D. McIntyre, Under-Achievement in Foreign Language Learning (New York: Modern Language Association of America, 1966), pp. 4-6.

All those participating in the study were students in King City high schools and were registered in Level II (second year) high school Spanish classes. This however, does not mean that all were tenth grade students. It was impossible to control this variable and still get Level II Spanish classes which fulfilled the writers' other requirements. Some of the students were at grade levels higher than tenth. Others were at lower levels. Most were tenth grade students.

Neither was it possible to control the variables caused by socioeconomic differences in more than a casual way. Students from areas of different socioeconomic status were included in each group. The lack of control of variables like age, sex, grade level and socioeconomic status made it necessary to consider classes rather than students as the experimental units.

The design of the present study was submitted to the Foreign Language Resource Teacher and Research Director of the King City schools. With their approval, the 12 classes being studied were volunteered to the writer by individual teachers who had an interest in helping the project. Certainly these teachers are deserving of commendation for giving of their time and concern so generously.

The extent to which the outcome of the present study is acceptable as an accurate and generalizable picture of the effect of the radio programs is a function of the extent to which variables not under study were held constant or controlled. Despite the fact that the present study is a preliminary one, it is not indended to be a report of one atypical situation whose outcome can have value for application to other situations only by pure chance. Thus, the unstudied variables mentioned below were, insofar as possible, held

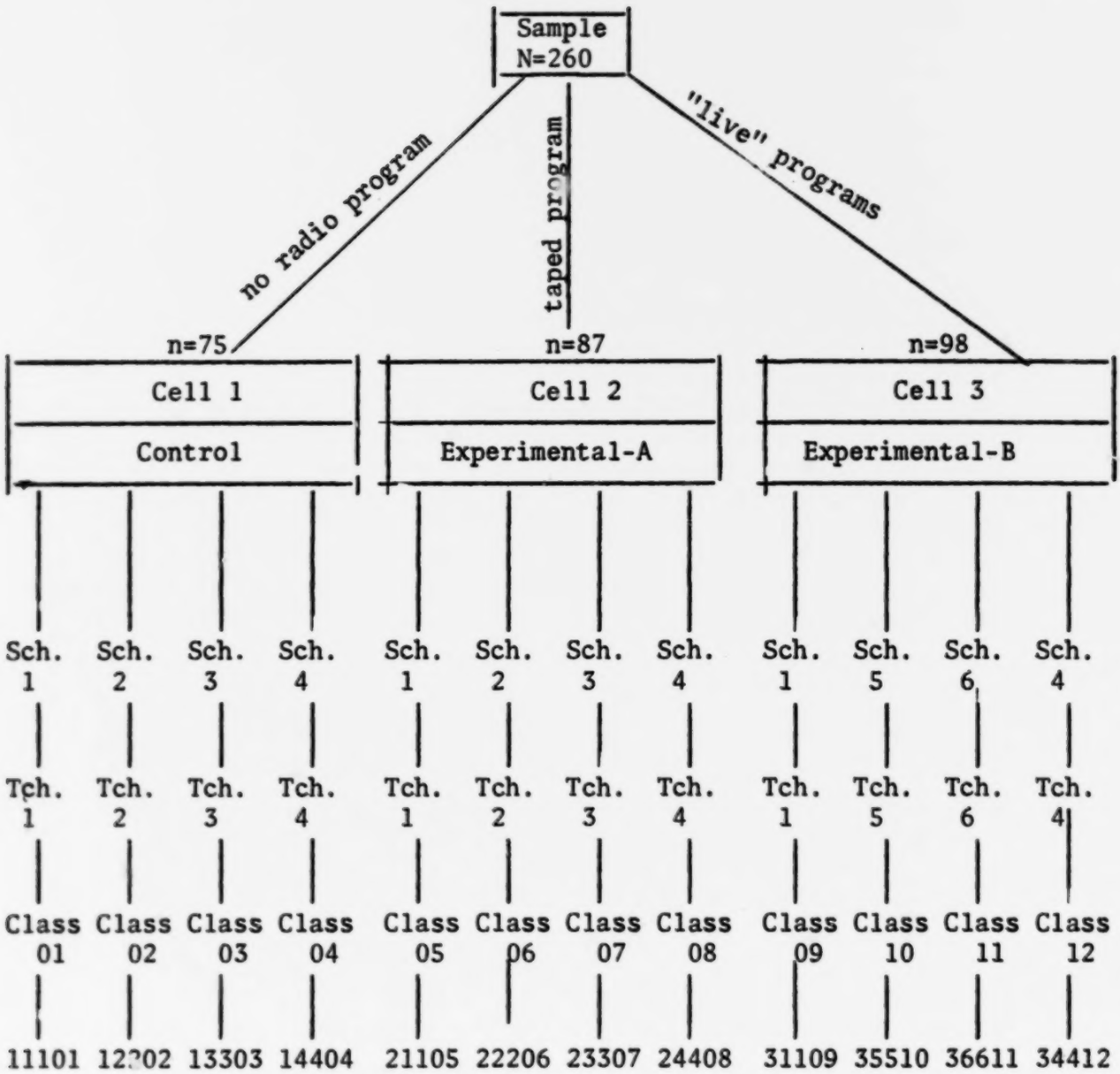

Figure 1

Design of the Experiment
at the Time of Pre-Tests

constant in all three groups.

The most critical unstudied variable is the difference that naturally occurs between teachers. The only way to control this variable efficiently is to have the same teacher(s) working with all treatment groups. This was possible in just one-half of the classes beginning the experiment. Due to attrition, it was possible to control this variable in two-thirds of the smaller sample that underwent the final analysis.

As the study began, teacher number one and teacher number four (see figure 1) taught one class in each of the three groups. Teacher number two and teacher number three each taught one control class and one experimental-A class. Teachers number five and six taught the remaining experimental B classes. A total of six teachers began the study. Thus, the teacher variable was perhaps a little better than one-half controlled as the study began. Later, attrition eliminated classes taught by teachers number three and six (See figure 2). At the time of final analysis, two thirds of the classes were fully controlled with respect to the teacher variable, while the remaining three classes were partially controlled in that two of them were taught by the same teacher.

Differences in terms of unstudied variables that may occur between experimental and control groups cannot be controlled as can the teacher variable because the same students cannot be assigned to all three groups. However, it is possible to use randomization and analysis of pre-test results to gain some assurance that such differences as may exist between the groups will have no significant effect upon the study's outcome.

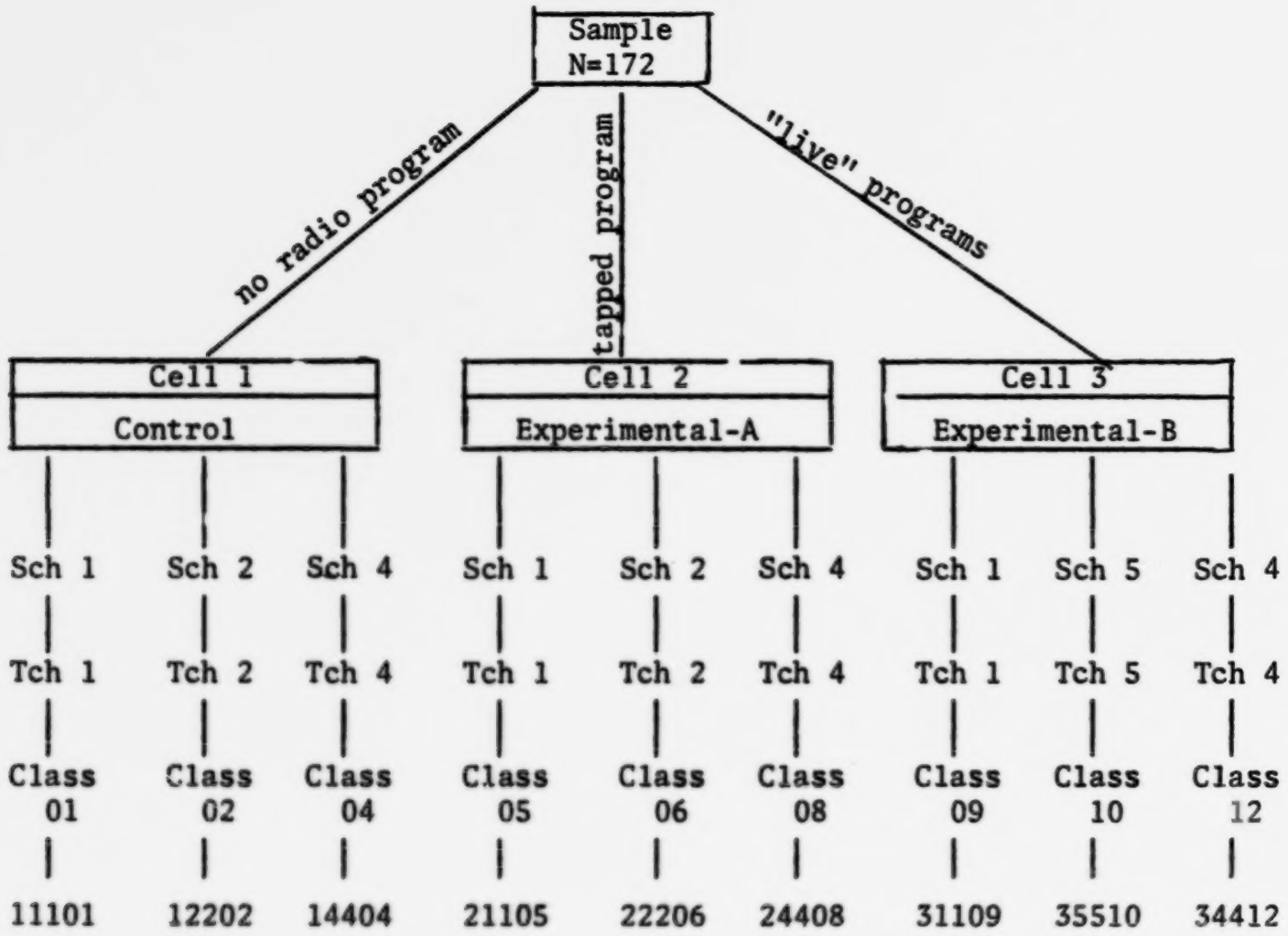

Figure 2

Design of the Experiment at
Time of Post-Test

Classes were assigned to the control and experimental-A groups with the use of a random numbers table. The schools' class schedules made it impossible to randomly assign students to those classes. The fact that all experimental-B classes had to be in session at the time of the broadcasts made random assignment to this group impossible.

The design of the present study calls for analysis of the pre-test results to establish similarity of the three groups in terms of listening ability, attitude, and reported grades in Spanish and English. If a statistical test fails to reveal a significant difference between the three groups on their pre-test instrument scores, it can be safely assumed that any other differences between the groups that may exist will have no significant effect on the study's outcome.

The last elements of the design to be presented here are the dependent variables being measured and the instruments used to measure them. The first of the variables to be measured is listening comprehension. Aside from the fact that listening is a far more complex skill than hearing alone, there is little agreement on what listening is.[30] Mackey[31] and Valette[32] have said that it is composed of the sub-skills of sound discrimination and comprehension. A sampling of listening specialists' definitions provided by Petrie[33] includes some of the following:

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[30] Charles R. Petrie, "What is Listening?" in Listening: Readings, ed. by Sam Duker (New York: The Scarecrow Press, 1966), p. 325.

[31] Mackey, loc. cit.

[32] Rebecca M. Valette, Modern Language Testing: A Handbook (New York: Harcourt, Brace and World, 1967, pp. 47-51.

[33] Petrie, op. cit., pp. 326-32.

> [a] composite process by which oral language communicated by some source is received, critically and purposefully attended to, recognized, and interpreted (or comprehended) in terms of past experiences and future expectancies.
>
> . . . comprising both receptive and reflective listening . . . reception . . . in terms of (1) getting lecture details, (2) following oral directions, and (3) keeping a sequence of details in mind. Reflective, or critical, listening in terms of (1) getting central ideas, (2) drawing inferences, (3) distinguishing relevant from irrelevant material, (4) using contextual clues to determine word meanings , and (5) identifying transitional elements.

None of the opinions refutes those written by foreign language experts.

The instrument chosen to measure skill in listening is one of the Pimsleur Spanish Proficiency Tests.[34] The test individually measures the two sub-skills of listening. Its first twenty questions ask the student to choose from a list of possibilities the written version of what he has heard on tape. This is a test of sound discrimination. The second twenty questions of the test ask the student to choose from four possibilities the most logical response to a question or comment he has heard. This tests listening (and reading) comprehension.

The fact that the test used is a rather short one leads one to fear that it may not be sensitive enough to enable one to reach a conclusion regarding the hypothesis of the study at hand. However, a test written by the investigator would be open to suspicion simply because the same person would then have designed the experiment, the

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[34] Paul Pimsleur, Pimsleur Spanish Proficiency Tests Listening Form A (New York: Harcourt Brace and World, 1966).

treatment, and the instrument. Also, the use of a specially written instrument would forfeit the benefits of the nationwide standardization offered by the test used.

The other dependent variable which is being measured is student attitude toward their Spanish classes. This is even more difficult to define in a statement based on research than is listening. It is such an elusive entity that the definition here will have to be restricted to one that attempts to explain the object of concern in this study, rather than one which attempts to state what attitude is. Attitude as measured here is student satisfaction with regard to his study of Spanish during the past year.

The attitude variable was measured by means of a scale constructed by the investigator. The scale consisted of nine questions, each of which the students answered from a list of five suggestions (See Appendix). The purpose of the scale was to measure the degree to which students were satisfied with their study of Spanish and, more specifically, with what they were listening to during that period of study. Since reliability and validity of both instruments are outcomes of the analysis of the data collected, they are discussed in the following chapter.

B. Procedure

The history of the study at hand traces the implementation of the design from the time of the preparations for the pre-tests to the time of the writing of the final report. The reader will note that the entire project began before production of the radio program and extended over a period of about two years (see Figure 3).

The first contact with the King City school system regarding the present study came before school closed for the summer in 1968. At the writer's request, The Field Experience Office of The Ohio State University contacted the administration of the King City schools and permission was granted for an evaluation of the radio program to be done there. King City officials wisely stipulated that their permission was granted pending teacher approval and with the provision that no teacher taking part in the study would be in any way prevented from using any device, aid or technique deemed valuable by that teacher, with the sole exception of the radio program as it was being studied in the three treatment groups.

The next step was to locate and meet with the participating teachers with the help of the Foreign Language Resource Teacher. The Resource Teacher circulated descriptions of the proposed study and located a total of twelve classes whose teachers volunteered for the experiment. These classes were grouped in accordance with the design of the study. A meeting for the teachers was scheduled. Those unable to attend were visited personally. The teachers who were to conduct experimental classes were asked to be sure that their classes listened to as many of the 28 programs used by the King City radio station as possible. Those teaching experimental A classes were asked to listen to the program at broadcast time and to avoid auditioning the program if they found it necessary to use a taped version because of reception or scheduling problems. In cases where teachers taught a class from each group, they were asked to use the program for the first time with the experimental B group. Because of the complex schedule and calendar that any high school system must use, the writer did not require that

May, 1967	First study of studies on use of radio in foreign language teaching by this writer
September-December, 1967	Search for a radio program and for antecedent studies
May and September, 1968	Arrangements with King City administration
June-August, 1968	Production of El eco espanol
October 2, 1968	Meeting with teachers and beginning of Pre-tests
October 15, 1968	Completion of pre-testing and beginning of broadcasts
May 15, 1969	End of treatment period and beginning of post-tests
May 30, 1969	Completion of post-tests
June-September, 1969	Data analysis and writing of report

Figure 3

Time Schedule

all of the programs be used. An arbitrary goal of twenty of the twenty-eight programs broadcast on the King City station was set. Teachers were asked to use the programs as regularly as possible during the treatment period. In addition to these personal contacts, two newsletters were sent to participating teachers in order to maintain communications and clarify procedure without making unnecessary and possibly disruptive visits to the classes.

Pre-testswere administered with a script prepared by this writer in order to be sure that little, if any, time would be wasted. It was desirable, if not absolutely necessary, to finish each administration in one forty minute class period. The script also made it possible to standardize the test administrations for those few situations where the writer had to send a substitute to administer the tests.

When the tests were completed, the broadcasts began and the treatment was in effect. The programs were broadcast once weekly over WOSU-AM and once again via the King City school system FM station. One broadcast was at 10:15 A.M., the other at 10:00 A.M. This made it possible to use the broadcast in both King City schools and in those of many suburbs.

The post-tests were administered in much the same way as the pre-tests were. The only difference in the test battery was the absence of the grade report mentioned above. Otherwise, the tests were identical. The total number of students participating in the post-tests was 172, which is 88 subjects less than began the experiment. One reason was absence. Those who took the pre-test but were not present on the day of the post-test were dropped. Another reason was unsatisfactory application of the treatment. Two classes

participating in the study (#23307 and #36611) did not receive a sufficient exposure to the programs. Insufficiently exposed classes were dropped from the experiment along with one control class (#13303) taught by the teacher who taught class #23307. This control class was dropped because statistical procedures are easier to carry out when all cells have the same number of classes and because one part of the teacher variable was thus eliminated. This meant that each of two participating teachers had one class in each cell, a third teacher had one class in each of two cells, and a fourth teacher had the one remaining class. The last reason for eliminating subjects from the experiment was failure on the part of students to understand and obey mechanical instructions having to do with completing the tests. These instances were few in number, and it was not possible to trace these students to have them re-do the tests.

Data analysis was carried out with aid from three Ohio State University offices. The data were punched on cards by the Test Development Center. Computer time was supplied by the Computer center, and the actual statistical analysis was carried out by a staff member of the Statistics Laboratory. Additional computer time was supplied by The Oklahoma State University Research Foundation.

CHAPTER IV

Results

A. Presentation

The purpose of this chapter is to select, organize, and report the data yielded by the study. Five classifications have been employed for the purpose of presenting the data analysis. The first classification concerns data from the analysis of the pre-test scores. The second deals with data from the analysis of the post-test scores. The third presents data from the analysis of variance between the pre-test and the post-test, while the fourth discusses the reliability and validity of the instruments. The fifth deals with non-quantitative data gathered in the study.

B. Pre-Test

The pretest employed the two instruments mentioned earlier along with the students' reports of their first year's Spanish grade which were used to provide a co-variate. In the analysis the scores from the two halves of the Pimsleur test were treated both separately and in combination because they measure different skills. Side one of the Pimsleur test, the sound discrimination portion, is hereafter referred to as Pimsleur I. Side two, the comprehension portion, is hereafter referred to as Pimsleur II. The total score was treated as a third instrument which is referred to as Pimsleur Total. The

last score analyzed is that of the attitude scale.

Two hundred sixty students of the 267 taking the tests were able to provide answer sheets that were complete and accepted by the computer. Table 1 shows the means and standard deviations of the students' scores on the instruments.

Table 1

PRE TEST MEANS AND STANDARD DEVIATIONS

N = 260

Treatment	Reported Spanish I Grade[a]	Pimsleur I	Pimsleur II	Pimsleur Total[b]	Attitude[c]
Control	M 3.720	9.800	6.080	16.080	21.147
	SD 0.909	3.209	2.247	4.401	5.986
Experimental A	M 3.943	9.724	6.414	16.506	20.586
	SD 0.881	3.305	2.221	4.557	5.075
Experimental B	M 3.929	10.204	6.439	16.959	22.000
	SD 0.922	2.814	2.364	4.298	5.328

[a]A = 5, B = 4, etc.

[b]Maximum score on Pimsleur Test = 40 (20 per side)

[c]Most favorable attitude score = 9; least favorable = 45

Table 1 tells us that the Experimental-A (tape reception) group reported higher grades in their Spanish I courses and a more favorable i.e., lower attitude than did the other groups. The table also

indicates that the Experimental-B (live reception) group achieved higher scores than did the other groups on the remaining three measures that comprised the pretest battery.

In order to find the significance of the differences between the groups, two analyses of variance were performed on the pre-test scores. The first employed the grade report as a co-variate. The second simply counted it as another variable.

Table 2

PIMSLEUR I PRE-TEST ANOV WITH SPANISH GRADE AS CO-VARIATE

N = 260

Source	df	SS	MS	F	P
Regression due to Spanish	1	137.158	137.158	15.056	.001
Treatment	2	11.122	5.561	.610	.544
Error	256	2332.160	9.1098		

This table indicates that the between-group difference in scores on the sound discrimination measure (Pimsleur I) was not at all significant. The level of confidence reported is .544 , meaning that chances are less than one in two that the difference was due to anything but mere chance. The highly significant regression figure reported in this table, and in the others employing the grade report as a

co-variate, indicates the value of the co-variate as a predictor of the criterion variables.

Table 3 continues the analysis by dealing with the between-group difference in scores on the listening comprehension portion of the Pimsleur Test (Pimsleur II).

Table 3

PIMSLEUR II PRE-TEST ANOV WITH SPANISH GRADE AS CO-VARIATE

N = 260

Source	df	SS	MS	F	P
Regression due to Spanish Grade	1	65.999	65.999	12.870	.001
Treatment	2	2.756	1.378	.269	.765
Error	256	1311.488	5.1226		

The between-group differences for listening comprehension (Pimsleur II) are shown by this table to be even less significant than the differences between groups for sound discrimination (Pimsleur I). The co-variate continues to function well as a predictor.

Table 4 combines the two sides of the Pimsleur test to indicate the significance of the difference between groups in scores obtained for the entire test (Pimsleur Total).

Table 4

PIMSLEUR TOTAL PRE-TEST ANOV WITH SPANISH GRADE AS CO-VARIATE

N = 260

Source	df	SS	MS	F	P
Regression due to Spanish	1	456.669	456.669	25.669	.001
Treatment	2	16.788	8.394	.472	.624
Error	256	4552.704	17.784		

The differences between groups reported for both parts of the Pimsleur Test (Pimsleur Total) are shown by this table to be insignificant. The level of confidence reported is .624 . This tells us that there is considerably less than one chance in two that anything but mere chance caused the between-groups differences that were reported.

Table 5 considers the significance of the between-group difference reported for the attitude scale

Table 5

ATTITUDE TOTAL PRE-TEST ANOV WITH SPANISH GRADE AS CO-VARIATE

N = 260

Source	df	SS	MS	F	P
Regression due to Spanish	1	806.982	806.982	30.320	.001
Treatment	2	108.264	54.132	2.034	.133
Error	256	6813.184	26.6135		

The between-group difference in attitude is also insignificant. It, however, is reported at .133 which is considerably closer to a signif[illegible]ant level than that of any other measure. As in the case of the other instruments, the regression figure indicates the high predictive value of the co-variate.

The following group of tables presents a second analysis of the pretest data. In the second analysis, the grade report was considered only as another variable. It was not used as a co-variate to establish the similarity of the groups at the time of the pre-test. Table 6 deals with the Spanish I grades reported by the students.

Table 6

PRE-TEST ANOV: SPANISH I GRADE

N = 260

Source	df	SS	MS	F	P
Treatment	2	2.478	1.239	1.514	.222
Error	257	210.329	.8184		

Table 6 indicates that the difference between groups in the Spanish I grade is not at all significant. The level of confidence of .222 tells us that there is a strong likelihood that the difference between groups was caused by chance alone.

Table 7 presents the second analysis of the sound discrimination portion of the Pimsleur Test (Pimsleur I).

Table 7

PRE-TEST ANOV: PIMSLEUR I

N = 260

Source	df	SS	MS	F	P
Treatment	2	12.314	6.157	.641	.528
Error	257	2468.485	9.6053		

This table tells us quite conclusively that the difference between group scores on the sound discrimination portion of the Pimsleur Test (Pimsleur I) was not significant. The level of confidence of .528 tells us that there is strong likelihood that any difference may have been caused by mere chance.

Table 8 deals with the listening comprehension portion of the Pimsleur Test (Pimsleur II).

Table 8

PRE-TEST ANOV: PIMSLEUR II

N = 260

Source	df	SS	MS	F	P
Treatment	2	6.456	3.228	.602	.549
Error	257	1378.034	5.362		

Table 8 indicates that the differences between groups in scores on the listening comprehension portion of the Pimsleur Test (Pimsleur II) were not significant. The level of confidence of .549 tells us that the difference is likely to have been caused by chance alone.

Table 9 is concerned with the between-group variance in the scores reported for the combined halves of the Pimsleur Test (Pimsleur Total).

Table 9

PRE-TEST ANOV: PIMSLEUR TOTAL

N = 260

Source	df	SS	MS	F	P
Treatment	2	33.142	16.571	.850	.429
Error	257	5010.215	19.495		

This table indicates that there is no significant difference between the groups' total scores on the Pimsleur Test. The level of confidence is .429, which tells us that there is no reason to think that anything but mere chance caused the reported difference.

Table 10 deals with the difference in scores on the attitude scale.

Table 10

PRE-TEST ANOV: ATTITUDE SCALE

N = 260

Source	df	SS	MS	F	P
Treatment	2	94.014	47.007	1.585	.207
Error	257	7621.849	29.6574		

The table shows us that there was no significant difference in scores on the attitude scale. Of all the measures employed, the attitude scale is the one which most closely approaches a significant level of confidence (.207). This, however, does not indicate that the reported difference was caused by anything more than mere chance.

C. Post-tests

At this point, classes which did not receive sufficient exposure (as defined above) to the treatment were dropped from the analyses. Also, subjects who were present for the pre-test but not the post-test were dropped. Hereafter, all analyses (even those which refer back to pre-test scores) refer only to those classes mentioned in the final diagram of the design of the experiment. (see Figure 2, page 27). Therefore, the number of observations analyzed for the post-test is smaller (N = 172) than the number of cases analyzed for the pre-test.

Table 11 shows the means and standard deviations of scores analyzed in the post-test. The reader may note that sexes have been segregated within the groups for this report. The purpose of this was simply to provide information that may be used in a corrollary study.

Table 11

POST-TEST MEANS AND STANDARD DEVIATIONS

N = 172

Treatment	Sex		Pimsleur I	Pimsleur II	Pimsleur Total	Attitude
Control	F	M	12.000	7.800	19.400	21.200
		SD	4.387	3.731	6.946	6.124
	M	M	11.565	6.522	18.478	26.348
		SD	3.217	3.315	5.089	5.921
Experimental A	F	M	12.800	8.229	21.571	19.029
		SD	3.085	3.163	5.354	5.020
	M	M	12.750	7.350	20.750	23.800
		SD	2.049	2.870	4.115	6.802
Experimental B	F	M	13.275	7.950	21.375	21.750
		SD	3.537	3.202	4.683	6.879
	M	M	13.172	8.103	21.276	25.172
		SD	3.274	3.051	6.457	8.734

The first thing indicated by Table 11 is that the post-test battery did not include a grade report to be used as a co-variate. Thus it is concerned with one less variable than was the pre-test. There were some differences in the four criterion variables measured. The reader will note that the Experimental-B (live reception) group scored better than the other two on the listening comprehension portion of the Pimsleur Test (Pimsleur II). The experimental-A group (taped reception) had a more favorable (i.e., lower) attitude score and also had higher scores in the remaining two measures in the post-test battery.

One-way analyses of variance were performed on the data reported in Table 11. The following group of tables tells us about the significance of any differences that were reported. Table 12 deals with the post-test administration of the sound discrimination portion of the Pimsleur Test (Pimsleur I).

Table 12

POST-TEST ANOV: PIMSLEUR I

N = 172

Source	df	SS	MS	F	P
Treatment	2	59.458	29.729	2.623	.076
Error	166	1693.2	10.20		

Table 12 tells us that there was no significant difference between the groups in sound discrimination. The level of confidence (.076) indicates that the difference was the result of anything but pure chance.

Table 13 is concerned with the listening comprehension portion of the Pimsleur Test (Pimsleur II).

Table 13

POST-TEST ANOV: PIMSLEUR II

N = 172

Source	df	SS	MS	F	P
Treatment	2	21.406	10.703	1.025	.361
Error	166	1733.53	10.443		

Table 13 indicates that there is no significant difference between the groups in the listening comprehension portion of the Pimsleur test (Pimsleur II). The level of confidence (.361) indicates that any difference reported is likely to have been caused by chance alone.

Table 14 analyzes the between-group differences or the combined scores of the Pimsleur Test (Pimsleur Total).

Table 14

POST-TEST ANOV: PIMSLEUR TOTAL

N = 172

Source	df	SS	MS	F	P
Treatment	2	190.910	95.455	3.362	.037
Error	166	4714.73	28.402		

This table indicates that there was a somewhat significant difference between the treatment groups' performance on the entire Pimsleur test (Pimsleur Total). The level of confidence (.037) is greater than .001, which would be considered highly significant. It is also less than .10 which would be considered barely significant. The analysis reported by this table tells us that there is some likelihood that more than chance alone caused the difference between the groups. To the extent that the design of the experiment is without influence from some extraneous variable, it can be said that the factor other than chance was the treatment.

Table 15 presents the analysis of the variance between the groups in the attitude scores.

Table 15

POST-TEST ANOV: ATTITUDE SCALE

N = 172

Source	df	SS	MS	F	P
Treatment	2	263.484	131.742	2.960	.055
Error	166	7389.158	44.513		

This table indicates that there was some significance to the difference between groups in scores on the attitude scale. The level of confidence (.055) is greater than a highly significant .001 and

less than a barely significant .10. The table indicates that something other than chance caused the difference between groups. This likelihood is somewhat smaller for the attitude scale dealt with in this table than it is for the Pimsleur scores dealt with in Table 14.

D. Pre-test to Post-test Analysis

The series of tables presented here provides a third analysis that was done to determine the difference between groups in terms of pre-test to post-test change. This change is, of course, the end product of a learning experience and is, therefore, the one factor of most interest to anyone making a comparison of learning environments.

The examination of pre-test to post-test change compared the scores of the pre-tests to those of the post-tests using analysis of co-variance as the statistical procedure. This procedure made it possible to adjust the pre-test scores in order to compare them with post-tests.

The pre-test to post-test analysis had to be carried out with the help of a different computer center from the one which aided in the first two analyses. Problems related to this change forced the elimination of nine subjects from the study. This left an N of 163 for the final analysis. This small number of randomly eliminated subjects should not have any effect on the selection of the critical value of F from the appropriate table because the range of degrees of freedom that apply to the same F value is larger than nine.

Table 16 shows the means for each of the three treatment groups on each of the instruments in the pre-test and the post-test.

Table 16

PRE-TEST AND POST-TEST MEANS

PIMSLEUR I

N = 163

Variable	Pre-test	Post-test
Control	10.1111	12.0000
Experimental-A	9.6481	12.7037
Experimental-B	10.2344	13.1562

This table shows us that there was a change from pre-test to post-test for all three groups. It further indicates that the greatest change was made by the Experimental-A group, even though the Experimental-B group achieved the highest score.

Table 17 is concerned with the significance of these differences.

Table 17

PRE-POST ANOV: PIMSLEUR I

N = 163

Source	df	SS	MS	F	P
Regression	1	343.8311	343.8311	39.426	< .005
Treatment	2	34.5903	17.2952	1.993	> .10
Error	159	1386.6216	8.7209		

This table indicates that there was no significant difference between groups in the amount of pre-test to post-test change. The level of confidence is greater than the .10 so often considered to be the boundary between significance and insignificance. The table further indicates that the co-variate employed (the pre-test) is a valid predictor of the criterion variable (the post-test).

Table 18 gives us the means for each of the three treatment groups for the pre-test and post-test in the second part of the Pimsleur Test.

Table 18

PRE-TEST AND POST-TEST MEANS
PIMSLEUR II
N = 163

Variable	Pre-test	Post-test
Control	6.1556	7.4222
Experimental-A	6.5370	7.8519
Experimental-B	6.5937	7.9375

This table tells us that Experimental-B (live reception) group changed the most from pre-test to post-test. It also achieved the highest score.

Table 19 deals with the significance of the reported differences

Table 19

PRE-POST ANOV: PIMSLEUR II

N = 163

Source	df	SS	MS	F	P
Regression	1	247.8338	247.8338	28.008	P < .005
Treatment	2	2.3855	1.1927	.135	P > 10
Error	159	1406.9250	8.8486		

This table indicates that the difference between groups in pre-test to post-test change was not significant. The level of confidence is greater than .10, telling us that any difference reported is likely to have been caused by mere chance. The table further indicates that the pre-test (used as a co-variate here) is a good predictor of the post-test.

Table 20 shows us the means for the pre-tests and post-tests in the combined sections of the Pimsleur test (Pimsleur Total).

Table 20

PRE-TEST AND POST-TEST MEANS: PIMSLEUR TOTAL

N = 163

Variable	Pre-test	Post-test
Control	16.6000	19.4000
Experimental-A	16.7778	21.1481
Experimental-B	17.0000	21.2344

This table indicates that the Experimental-A (tape reception) group changed more from pre-test to post-test than did the others. It also shows that the Experimental-B (live reception) group achieved the highest score.

Table 21 deals with the significance of the differences reported above.

Table 21

PRE-POST ANOV: PIMSLEUR TOTAL

N = 163

Source	df	SS	MS	F	P
Regression	1	1101.8726	1101.8726	55.068	P < .005
Treatment	2	86.9758	43.4879	21.173	P > .10
Error	159	3181.4691	20.0092		

This table indicates that there was no significant difference between groups in the amount of pre-test to post-test change in the combined sections of the Pimsleur Test (Pimsleur Total). The level of confidence (> .10) indicates that the difference reported is likely to be due to mere chance. Once again, the pretest is pointed out as a good predictor of the post-test.

Table 22 lists the means for the pre-test and post-test scores on the attitude scale.

Table 22

PRE-TEST AND POST-TEST MEANS:
ATTITUDE TOTAL*
N = 163

Variable	Pre-test	Post-test
Control	21.1333	23.6222
Experimental-A	20.6852	20.7592
Experimental-B	21.7031	23.2031

*9 = Positive Extreme

45 = Negative Extreme

This table indicates that each of the three groups changed from pre-test to post-test. In each of the three cases, the change was negative and was most pronounced in the control group.

Table 23 deals with the significance of the above report.

Table 23

PRE-POST ANOV - ATTITUDE TOTAL

N = 163

Source	df	SS	MS	F	P
Regression	1	2443.8962	2443.8962	71.016	< .005
Treatment	2	167.1328	83.5664	2.428	> .05; < .10
Error	159	5471.7187	34.4133		

The table indicates that the difference reported is slightly significant. The level of confidence is not such that one could call the difference highly significant. Nevertheless, it can be said that the difference is due to something more than pure chance.

The conclusions that may be drawn from the results presented above are subject to a great many conditions. Two of the most important of these are the reliability and validity of the insturments.

E. Reliability and Validity

Certain qualities of the instruments employed in the present

investigation are absolutely critical in any interpretation of these results. To the extent that the instruments are without reliability (which might be loosely described as repeatable accuracy) and validity (appropriateness for measuring that which they purport to measure), the outcome of the experiment and, indeed, the experiment itself are worthless. Thus, some demonstration of both reliability and validity is essential.

The Pimsleur test's manual reports a combined reliabili y coefficient for both sides of the test. This figure has been adjusted to accomodate the brevity of the tests, and it is reported at a most respectable .74.

A split-half reliability test was done on the attitude scale by a specialized computer program. The results of that test were $r = .71$.

Validity is a much more elusive quality. Naturally both tests have face validity. They both appear to be appropriate for use in the present experiment. However, some more precise measure than the approximate one of a teacher's guess is required. One acceptable way to establish the validity of a language test is to correlate it with grade reports or possibly with some other test known to be valid. This is easy enough to do if the test purports to measure all that a course grade does. However, in dealing with a listening test, we cannot look for an extremely high correlation with grades. The grades measure much more than listening (and associated skills) alone. A correlation of .33 was established between Spanish grade reports collected and the scores of the tests in listening. This may not seem to be sufficiently high unless one considers the fact

that it is quite desirable to have a grade which measures to that degree the skills measured by a listening test. In other words, the .33 correlation speaks well for the test and the grade if we can assume that the remaining parts of the grade are based on speaking, reading and writing. This assumption does not seem unreasonable, and we must make it to estimate the test's validity.

An estimate of the validity of the attitude scale is even more difficult to establish. A correlation between the grade and the attitude scale may exist. However, the grade does not purport to measure attitude, so such a comparison is futile. Comparing the scale used with other scales used in research (such as that of Borglum and McPherson) is equally futile because the treatment here is so different (no visuals involved). Thus, we have no more than minimal evidence of face validity for the attitude scale, and this must be accounted for in any interpretation of the results.

F. Non-quantitative reports

The purpose of including non-quantitative information is merely to add human interest to this report. To ignore subjective reactions to the treatment is to ignore an entire dimension of the study which, this writer believes, is due some attention. Some of the students' responses might add a measure of understanding not otherwise obtained by reading other results of the study.

Naturally, none of these responses came from control group students because they did not hear the programs. Thus the data are not only non-quantitative, but non-comparative as well. In a word,they are uninterpretable, and that is why neither a hypothesis nor a

conclusion regarding these data appears in the present study. None of this makes these responses any less interesting. Those quoted below were chosen because the writer found that they seemed to be representative of the opinions volunteered.

> "The language tapes were alittle (sic) hard to understand and follow. I didn't learn very much at all from them. Some parts were interesting though, when they had the commercials (sic) and the music ... The interviews were interesting because it was fun to hear the high school kids goof up all the time."
>
> "... The questions after the stories were very helpful. The commertials (sic) were the best ... it is fun to hear Pepsi Cola and Alka-Seltzer in Spanish"...
>
> "entertaining and educational ... quite hard"
>
> "hard but enjoyable and easier with the teachers' help. Thank you."
>
> "Would like more of the actual life of the Spanish people."
>
> "It was fun to see how much we could understand"
>
> "kind of hard ... fast"
>
> "too much like a lesson"
>
> "could have had English on tape"
>
> "program was on tape and ... mushy and uneasy to hear ...
>
> "... good luck with the experiment."

This at least proves that some students knew they were taking part in an experiment. Here are more.

> "... no useful purpose ... too hard"
>
> "... good to use in advanced classes"
>
> "... helped me in learning to understand"

This one is, beyond any doubt, the best of all.

> "... no comit (sic)..."

The writer expected the student interviews included in the programs to be very well liked, but the few who commented on them were usually negative. No student, however, said anything negative about the heavy use of music and commercials. All those commenting on these elements were pleased. No one found the tapes too easy to comprehend. In fact, those making comments about speed felt they did not understand enough, and that the pace was too quick.

Whether or not the non-quantitative information presented above leads to conclusions supported by research, it still can be a valuable source of ideas to use in producing new versions of the radio programs.

CHAPTER V

A. Conclusions

The purposes of this chapter are to present the conclusions that the writer has drawn from the above results and to make recommendations for the use of radio in foreign language teaching.

The conclusions are organized in accordance with the hypotheses of the study which were presented in Chapter I. The first conclusions, therefore, will be those drawn from results of the measures of the listening skills studied. These will be followed by conclusions drawn from results of the measure of attitude.

The hypothesis regarding listening comprehension stated that there was no significant difference between scores achieved on a measure of listening comprehension by similar classes not listening to an enrichment-oriented radio program, listening to such a program via tape recording, and listening to such a program at the time of broadcast.

The results presented in Chapter IV lead the writer to conclude that the hypothesis on listening comprehension should be accepted. The results of the pre-test (see Tables 1, 2, 3, 4, 6, 7, 8, and 9) re-assure us of the similarity and, consequently, the comparability of the three treatment groups. The results of the post-test (see Tables 11, 12, 13, and 14) only partially support the acceptance of the hypothesis. The difference between groups in their performance on the combined sections of the Pimsleur test (Pimsleur Total, Table

14) was significant. Nevertheless, the hypothesis is accepted because the analyses of the differences in pre-test change report that these differences are not significant (see tables 16 through 21). The final conclusion regarding listening comprehension is that radio as used here caused no significant difference and thus can be employed to vary the pace of instruction in listening without retarding achievement.

The hypothesis regarding attitude stated that there was no significant difference between the scores of an attitude scale received by similar classes not listening to an enrichment-oriented radio program, listening to such a program via tape recording, and listening to such a program at the time of broadcast.

The results presented in Chapter IV lead the writer to conclude that the hypothesis regarding attitude should be cautiously rejected. The results of the pre-test (see Tables 1, 5, 6, and 10) indicate that the three groups are similar and comparable. The results of the post-test (see Tables 11 and 15) tend to support rejection of the hypothesis. The difference between groups in their scores on the attitude scale (Table 15) was significant. The reason for rejecting the hypothesis is that the pre-test to post-test change analysis also reports a somewhat significant difference between the groups (see Tables 22 and 23). The final conclusion regarding student attitude is that it deteriorates over the course of a school year no matter which treatment is applied, but that the deterioration is significantly diminished when radio, as employed here, is utilized.

B. Recommendations

The writer's recommendations with regard to the use of radio in foreign language teaching are treated in three categories. The

first category includes those dealing with research. The second deals with suggestions for the use of radio for language teaching in the television age. The third presents some specific suggestions for those considering the production of a radio program for use in language teaching.

There can be no question of the need for further research into the use of radio for language teaching. It has not received the same attention from researchers that other media have, and it does deserve that attention.

Each of the sub-skills of language learning, as well as other things presented in language classes, should be comparatively evaluated with and without a supplementary radio program. The present study has made a preliminary investigation into radio's effect on the listening skill. There is immediate need for replication and re-replication of the present findings. These replications should probably not be the work of one man alone. They should be done according to a system like that recommended by Stufflebeam[35] wherein a disinterested process evaluator checks every step of the study to be absolutely sure that the best procedures known have been followed. Without the benefit of such an evaluator, the best procedures to follow tend to become visible only through hindsight. Some variables which might have been controlled in this study were not. One of these was preparation and follow-up. One hesitates to specify the

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[35] [Richard I. Miller, et. al.] "CIPP' - Stufflebeam's Model for Evaluation" PACEreport, November, 1967, pp. 10-13.

amount of preparation and follow-up time to be used, but it might have been possible to agree on some minimum and maximum periods for these activities. Another of the variables that were only casually controlled were the kinds of activities that went on in all three groups of classes when they were not listening to the radio. It would have been interesting to know specifically what kinds of listening work the classes performed when they did not listen to the radio. This should be considered in any replication of the experiment. The experimental units involved in the present study were classes, not individual students. It would have been a good idea to use individuals as the experimental units and to then control variables such as age, sex and intelligence. The order in which the same teacher taught classes from more than one group was likewise uncontrolled. A process evaluator might also have made it possible to evaluate teacher attitude toward the broadcasts. This should certainly be a part of any replication of the study.

The variables that were not controlled might have been easier to control if the study had been done in a larger city with a larger number of Level II Spanish classes. One can only guess whether a radio station in a larger city would have given the cooperation that the University radio station gave. The same question applies to a larger city's school administration.

Once the effect of radio on the listening skill has been definitely evaluated, there should be further investigation of a different type of radio supplement designed to enhance the speaking skill. Some of the applications recommended later might be used

in an experiment to evaluate the use of radio in teaching the reading and writing skills. In addition, it would be interesting to see if student acceptance of foreign cultural patterns could be improved with the aid of a radio supplement. Finally, the costs of radio are easily measured, but not easily compared with those of other media. A study measuring the costs of radio and television presentations of the same program material and their relative effects would be valuable indeed. Shepherd's study might be a good point of departure.[36] The knowledge gained from these studies of cost would provide superior rationale for the joint use of radio and television. Such of radio and television usage would employ each medium where it operates most efficiently - i.e., - where it gets the most effect for the least cost. The Australian Broadcasting Commission is pioneering in this area by providing preparation via radio for a subsequent television program. The same idea could easily be extended to the follow-up procedure. Not all testing has to be done with a visual adjunct included; when this adjunct is not needed, radio could do a fine job for evaluation processes. Once a visual presentation has been made, some of the episodes of a series could be broadcast by radio to some building sets. Radio might be more useful than television for preliminary listening and speaking practices because FM radio is known to be capable of reproducing a wider frequency range of sound than is television. This is due more to the quality of sound equipment generally used in television rather than to any characteristic of

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[36] op. cit.

television itself. Nevertheless, it seems that the wider frequency range would be well worth having for use in teaching new and different sounds.

Where radio is not used in conjunction with television, it would be wise to follow the lead of the BBC by further investigating the capabilities of radiovision. This novel combination of fixed and projected visuals with a radio broadcast has great potential. It is hoped that creative procedures and skillful language teachers will be able to cooperate to take full advantage of this potential.

This writer believes that radio has potential for use in an area that has not given thorough consideration by language methodologists--that of teacher preparation. The Carroll report[37] clearly indicates that prospective language teachers need to develop their linguistic abilities. Radio can and should be used in and out of intensive courses to help prospective teachers build these skills before they go out to teach. It should be possible, for example, to enhance the listening ability of prospective teachers by exposing them to a short, daily entertainment-oriented radio program in the foreign language during their last year of teacher preparation. A program for prospective teachers might also discuss specific methods to be used in the language class. Drills could be used and then discussed to show

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[37]John Carroll, "Foreign Language Proficiency Levels Attained by Language Majors Near Graduation from College", Foreign Language Annals, I (December, 1967) p. 131.

how they are constructed. The same might be done with testing procedures. Such a program would supplement rather than replace the demonstration done in a methods class.

Whatever form it takes, the use of radio must take advantage of the full potential of the medium. That is, a simple lecture is not sufficient program content. The program should use a cast, sound effects, music, and a host of other elements that only a professional radio production expert could provide. This means that language teachers and production experts will have to work together.

The following suggestions are reflections of the experience in producing a radio supplement for the foreign language class that this writer has recently undergone. They are not intended to be a definitive compendium of the techniques of radio production, but simply point out what the writer feels experience has taught him about using radio's potential in the foreign language classroom.

One essential is time. It is difficult (but usually necessary) to produce a good radio program under the pressure of a deadline. Allow plenty of time to produce each program. Two weeks per program should be sufficient, but, if more time is available, it should be used. In addition to writing, editing, and actual production, time should be allowed for getting appropriate sound effects and other sound sources that will not originate in the recording studio itself.

Money and control over it are two elements that need little mention. However the element of control also extends to that over the classrooms that receive the program. It is probably a well-intentioned mistake to expect two large public institutions like a

university and a school system to cooperate perfectly with each other to produce an ideal radio program and experimental evaluation of same. It is a better idea to let one man with a mid-level administration position in the school system have the responsibility for seeing to it that radio production and research forces work cooperatively in every respect. This is not to imply that the writer experienced any problem in this area. The ideal is being described here. It, at times, will be very different from reality.

Student interest is essential in producing a radio program. A given writer's estimate of what enhances student interest is not enough. Students themselves should be asked to contribute ideas for programs that they would like. Writers ought to talk with them and present suggestions for them to accept or reject. The writer was sure that the most popular part of the present series would be the student interviews. They were not nearly as well liked as was expected. One reason was a socio-economic faux pas that should have been obvious. The programs were produced during the summer when it was easiest to contact students for the interviews whose teachers were already at the University taking summer courses. Most of these turned out to be suburban teachers, and, as a result, our interviews included more suburban students than those from the city. This was, with good reason, quite deeply resented by many students, and this resentment may have been a greater source of distortion in the study than the writer expected. This incident demonstrates the need for student participation in the planning of a good radio series.

The speaking pace of the program is also critical for the maintenance of student interest. It will be noticed that a large number

of students commenting on the series used here said that the pace was too fast. It was, in fact, no faster than that used in their classrooms. But further studies should be made to find out more about speaking pace in foreign language broadcasts. Perhaps it will be found that the pace used in the classroom is too fast for use in radio broadcasts to the Level Two classroom.

Two items that met with consistently favorable response from the students were the music and the commercials. It is suggested that these elements be given a large role in future productions.

Most of the music used was of the "pop" genre that can be heard on any radio disc jockey show in Latin America. Folk music and classical music were used, but not nearly as much as love songs. The effect desired was to show the students that there are similarities as well as differences in the two cultures that meet in a Spanish classroom.

When confronted with the possibility of using commericials, teachers, as a rule, fear the mention of a brand name in their classrooms, thinking that such mention will constitute an endorsement. For the sake of good language teaching, they should lose this fear. It is certainly a totally groundless one when speaking of brand names not available in this country. Even in the cases wherein a well-known local product is mentioned, it is futile to try to protect children from hearing about the soft drink that "beats the others cold". If commercials can be put to use, we should exploit them to the hilt. Needless to say, manufacturers feel no qualms about reversing the process. To exploit a commercial is to repeat it, dissect it, quote from it, construct guessing games and other exercises around it, anything to force it to teach the language.

The sources for program material are many. There are scores of radio stations that broadcast to foreign language audiences here in the United States. They should be contacted along with the major advertising agencies. A newspaper is another source for material for scripts. Most of this material would be gladly supplied by the medium in question just for the sake of gaining exposure. Since there is no hope for protecting students from the commercial world (even if we wished to), we should make full use of that world for teaching.

Of course all kinds of games, puzzles, tongue twisters and the like should be used. An interesting format that was not used with El eco español was that of a quiz show. The listening supplement must use showmanship to be attractive enough to win student attention, but there is no need to fear that a weekly fifteen minute exposure is going to give the entire language class the atmosphere of a vaudeville theater. The milieu of the ideal language class is not so cold and austere as to be in absolute contrast with what is suggested here. Failure to court student interest in a listening supplement can only result in boredom.

The writer believes that radio can be used in a way that will enhance listening ability and student attitude in the foreign language class. The present study indicates that radio as used here can be employed in a foreign language class to vary the pace of instruction in listening without a negative effect. It also indicates that radio as used here has a somewhat significant effect on attitude. The final recommendation of the present study is that the effort to find a more effective usage of the medium continue along with the search for better ways to measure that effect.

APPENDIX A

Sample Script

(Page 1)	El eco español #20
Eng	Cast
	IG: Cuándo es su cumpleaños? En México, hoy es el cumpleaños de Ramón.. Cumple 16 años. Va a tener una fiesta muy grade por la noche y todos sus amigos van a ir. En México, tienen algunas actividades iguales o similares a las nuestras como: el cortar del pastel, pero muchas de las actividades son diferentes.. Por ejemplo--después de comer, todos se juntan para tratar de romper la pinata. Una pinata es un animal hecho de papel, lleno de chocolates y fruta. El que rompe la pinata es el que gana y tiene la primera oportunidad de comer los chocolates y frutas. Después de que rompan la pinata, muchas veces viene un grupo de mariachis
(Cuts from Happy Birthday)	que tocan y cantan una canción que se llama Las mañanitas. Se usa como nuestro. Happy Birthday
	(pausa) Hay 2 versiones de las Mañanitas. Aquí
(First version: Mañanitas)	tienen la primera. (pausa) Aquí tienen la segunda
(Second version)	versión de las Mañanitas. (pausa) Feliz cumpleaños Ramón.// Ahora, escuchen estas preguntas. No las

(2)	eco español
	tienen que contestar. Vamos a leer el cuento otra vez y les vamos a ayudar con las preguntas como. 1. ¿Qué día es hoy ...? 2. ¿Cuántos años cumple hoy Ramón? 3. ¿Qué tratan de romper ...? 4. ¿Qué es una piñata...? 5. ¿De qué está llena la piñata...? 6. ¿Como se llama la canción que tocan los mariachis? 7. ¿Qué frase se dice cuando uno cumple años? Ahora vamos a repetir. IG: En México, hoy es el cumpleaños de Ramón. Cumple 16 años. Va a tener una fiesta muy grande por la noche y todos sus amigos van a ir. En México, tienen algunas actividades iguales o similares a las nuestras como: cortar el pastel, pero muchas de las actividades son diferentes. Por ejemplo--después de comer, todos se juntan para tratar de romper la piñata. Una piñata es un animal hecho de papel, lleno de chocolates y frutas. El que rompe la piñata es el que gana y tiene la primera oportunidad de comer los chocolates y frutas. Después de que rompan la piñata, muchas veces viene un grupo de mariachis que tocan y cantan una canción que se llama Las Mañanitas. Se usa como nuestro Happy Birthday. Feliz cumpleaños, Ramón.

(3)	

Ahora van a oir las preguntas. Esta vez van a oir una respuesta también. Durante la pausa, contesten la pregunta con una frase completa. Aquí va un ejemplo:

IG: Vds. oyen

OV: ¿Qué día es hoy...el cumpleaños de Ramón.

IG: Vds. dicen

OV: Hoy es el cumpleaños de Ramón.

IG: Entonces Vds. repiten la contestación correcta durante la pausa.

Listos? Empecemos!

1. ¿Qué día es hoy...el cumpleaños de Ramón. (pausa) Eso es. Hoy es el cumpleaños de Ramón. (pausa)
2. ¿Cuántos años cumple hoy...16 años. (pausa) Perfecto. Hoy cumple 16 años. (pausa)
3. ¿Que tratan de romper...la piñata. (pausa) Muy bien. Tratan de romper la piñata. (pausa)
4. ¿Que es una piñata...un animal hecho de papel (pausa)
5. ¿De que está llena la piñata...chocolates y frutas (pausa) Muy bien. La piñata está llena de chocolates y frutas (pausa)
6. ¿Como se llama la canción que tocan los mariachis...se llama Las Mañanitas. (pausa) Eso es. La canción que tocan los mariachis se llama

(Page 4)	#20
	Las Manañitas. (pausa)
	7. ¿Qué frase se dice cuando uno cumple años?
	Feliz compleanos (pausa) Magnífico. Se dice feliz
Fanfare Student of the Week	cumpleanos cuando uno cumple anos. (pausa)
	Temas:
	Nombre, edad, y fecha del cumpleaños ¿tienen pastel?
	¿que más para celebrar?
	Que regalos? lo del regalo
Commercial	Aquí un mensaje comercial. (salsa de jitomate Goya)
	Ahora escuchemos este importante mensaje, como dice
	Ed Sullivan.
	Que producto es? a. es una máquina?
	b. es una muneca?
	c. es algo para comer?
	Muy bien--el producto es algo para comer.
	¿Como se llama el producto? a. salsa de cacahuate
	b. salsa de aguacate c. salsa de jitomate.
	Muy bien--el producto se llama salsa de jitomate.
	3. De qué color es un jitomate a. es amarillo
	b. es rojo c. es blanco. excelente un jitomate
	es rojo. Muy fácil eh? Tal vez no! Aquí van los
	otros anuncios que tenemos en nuestros programs.
Alka Seltzer	A ver si todavía se acuerdan para cuales productos
	son. (pausa)
Pepsi	Sí es Alka Seltzer. Una medicina para el estómago

(Page 5)	El eco espanol #20
	(pausa)
Real Kill	Sí es Pepsi. Un refresco para las fiestas. (pausa)
	Sí es Real-Kill, un insecticida.
	End of show

APPENDIX B

Attitude Survey

The Ohio State University

Department of Romance Languages

Survey of High School Student Opinions -- 1968

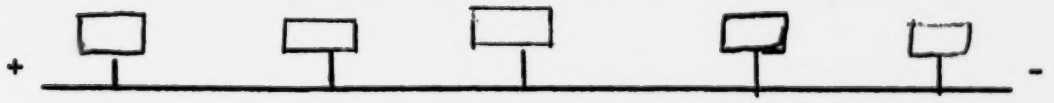
Student Number ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Instructions: This survey asks some questions that will tell us something abput your class' opinions about taking Spanish. NO ONE WILL EVER FIND OUT WHAT YOU WROTE ON THE SURVEY. Our IBM machines are programmed to report only for whole classes and THEY WILL NOT TELL US WHAT ANY INDIVIDUAL STUDENT WROTE ON THE SURVEY.

Use an "X" to choose the answer that comes closest to the way you feel about the questions asked. There are five squares for each item. Use the end ones if you are sure about your opinion. Use the inner ones (the ones next to the end ones which usually have no words) if you are pretty sure. Use the middle one only if you simply cannot think of any other answer to fit. Thank you for helping us.

PLEASE TRANSFER YOUR ANSWERS TO THE IBM SHEET AFTER MARKING THIS ONE!!!

I. Did you like your Spanish class last year?



(1) Much more than others

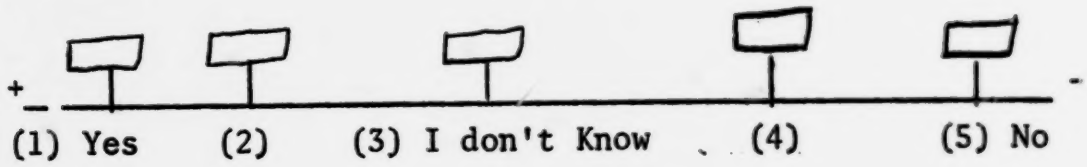
(2)

(3) No less nor any more than others

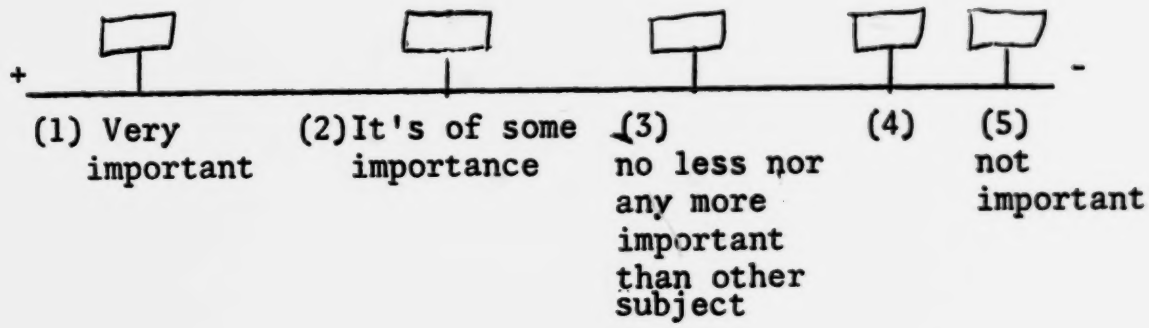
(4)

(5) Much less than others

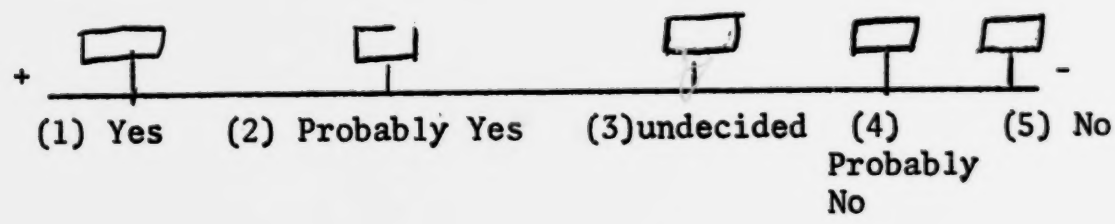
2. Do you think you gained as much as possible from your last Spanish course?



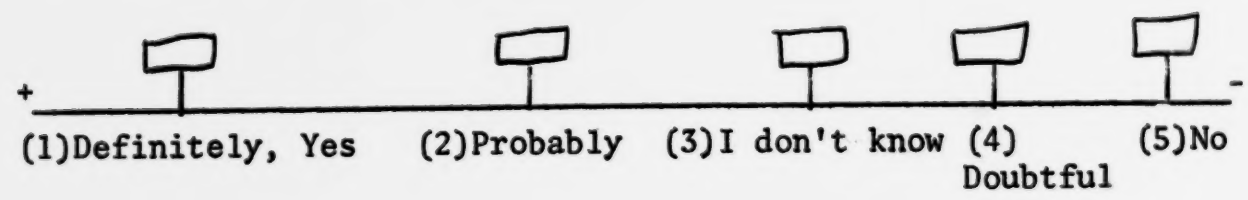
3. Do you feel that taking Spanish is important to you?



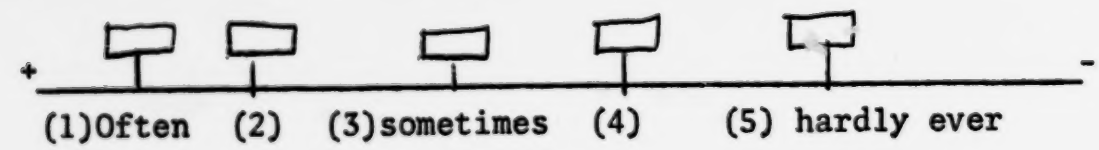
4. Do you intend to take any more Spanish courses?



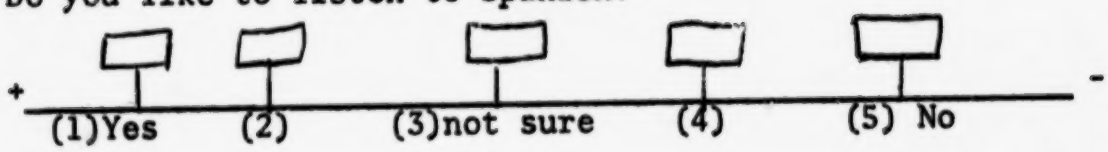
5. Do you think that learning Spanish will help you do things that you could not do with English alone?



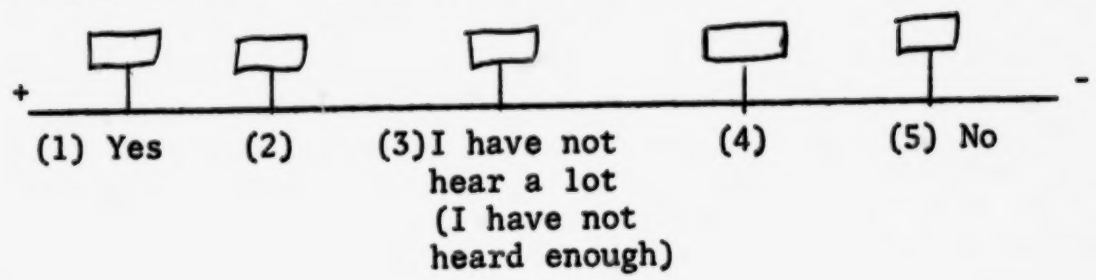
6. Did you spend time listening to Spanish last year?



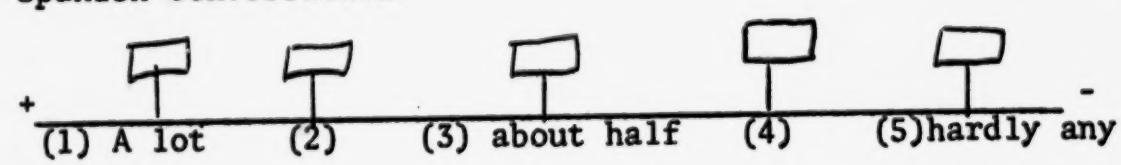
7. Do you like to listen to Spanish?



8. Do you like to listen to Spanish music?



9. How much meaning do you think you could get out of hearing a Spanish conversation?



BIBLIOGRAPHY

Billows, F. L. The Technique of Language Teaching. London: Longman's, 1961.

Brooks, Nelson. Language and Language Learning: Theory and Practice. 2nd ed. New York: Harcourt, Brace and World, Inc., 1964.

Campbell, Donald T. and Stanley, Julian C. "Experimental and Quasi-Experimental Designs for Research." Handbook for Research on Teaching. ed. by N. L. Gage. Chicago: Rand McNally and Co., 1963.

Canfield, Lincoln D. Spanish Today: Radio Spanish Lessons for the Intermediate Grades. Syracuse: Empire State FM School of the Air, 1962.

Carroll, John. "Foreign Language Proficiency Levels Attained by Language Majors Near Graduation from College." Foreign Language Annals, December, 1967, pp. 131.

Chu, Gordon C. and Schramm, Wilbur. Learning From Television: What the Research Says. Washington, D.C.: U.S. Office of Educational Broadcasters, 1968.

Cook, H. Robert. The Effects on Learning of Structure Drills in Spanish Broadcast via High Frequency AM Radio. Bloomington: Indiana University, 1964.

Dale, Edgar. Audio-Visual Methods of Teaching. New York: Holt, Rinehart and Winston, 1954.

Edgerton, Mills F., ed. Sight and Sound: The Sensible and Sensitive Use of Audio-Visual Aids. New York: Northeast Conference on the Teaching of Foreign Languages, 1969.

Free, Colin and the Staff of the Commonwealth Office of Education. English for Thailand Book 3. Sydney, Australia: Australian Broadcasting Commission.

Garfinkel, Alan and Litt, Leslee D. El eco espanol: An Enrichment-Oriented Radio Program for Level Two High School Spanish Classes. Columbus, O.: WOSU, 1968.

Giroux, Micheline and Ropert, Marcel. French for Schools. Sydney: Australian Broadcasting Commission, 1965.

Glenn, Leona. "Teaching Foreign Language by Radio." Educational Research Bulletin, XL (May, 1961).

Lowdermilk, Ronald R. "Attitude Shifts from Reading and Radio Program Listening" (unpublished Ph.D. dissertation, The Ohio State University, 1939).

Lumley, F. H. "Does Radio Broadcasting Help Pupils Pronounce Foreign Languages?" Modern Language Journal, XVIII (March, 1934), pp. 383-6.

Lundgren, Rolf. "English Radio Courses as a Pre-Requisite for Making English a Compulsory Subject in the Swedish School System." Stockholm, 1967 (mimeographed).

Mackey, William Francis. Language Teaching Analysis. London: Longmans, Green and Col, Ltd., 1965.

Medard, Bernard. "Teaching French by Radio" South Pacific Bulletin, April, 1962.

[Miller, Richard, et. al.]. "CIPP--Stufflebeam's Model for Evaluation" PACEreport, November, 1967.

Newmark, Gerald and Diller, Edward. "Emphasizing the Audio in the Audio-Lingual Approach." Modern Language Journal, XLVIII (January, 1964) p. 18.

NHK Cultural Research Institute. "The Effects of Radio English, Classroom" Survey of Educational Media in the Far East. Washington: U.S. Office of Education, 1963, p. 102-3.

Nostrand, Howard Lee, Foster, David William, and Christensen, Clay Benjamin. Research on Language Teaching An Annotated International Bibliography, 1945-64. Seattle: University of Washington Press, 1965.

Petrie, Charles R. "What Is Listening?" Listening: Readings. Edited by Sam Duker. New York: The Scarecrow Press, 1966.

Pimsleur, Paul. Pimsleur Spanish Proficiency Tests: Listening Form A. New York: Harcourt, Brace and World, Inc., 1966.

Pimsleur, Paul, Sundland, Donald M., and McIntyre, Ruth D. Underachievement in Foreign Language Learning. New York: Modern Language Association of America, 1966.

Reid, J. Christopher and Mac Lennan, Donald W. Research In Instructional Television and Film. Washington: United States Office of Education, 1967.

School Broadcasting Council for the United Kingdom. "Radiovision", London, 1967 (mimeographed).

_____. "French for Beginners". London, 1965 (mimeographed).

Shepherd, Gene D. "A Comparison of the Achievement of Aural Recognition in Spanish by Third Year Primary Pupils When Either Radio or Television Is Used As the Instructional Medium." (unpublished Ph.D. dissertation, University of Oklahoma, 1964).

Twyford, Loran C. "Educational Communications Media" Encyclopedia of Educational Research. Edited by Robert L. Ebel (4th ed.) New York: The Macmillan Company, 1969.

Valette, Rebecca. Modern Language Testing: a Handbook. New York: Harcourt, Brace and World, 1967 .